

...day ... Month 2012 – Morning/Afternoon

LEVEL 1/2 CAMBRIDGE NATIONAL AWARD/CERTIFICATE/DIPLOMA IN SPORT SCIENCE

R041: Reducing the risk of sports injuries

Candidates answer on the Question Paper
A calculator may be used for this paper.

OCR Supplied Materials:

- None

Other Materials Required:

- None

Duration: 1 hour



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

- Write your name. Please write clearly and in capital letters, centre number and candidate number in the boxes above.
- Use black ink. HB Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.
- The quality of your written communication will be taken into account in marking your answer to the question marked with an asterisk(*)

INFORMATION FOR CANDIDATES

- The number of marks for each question is given in brackets [] at the end of the question or part question.
- Dimensions are in millimetres unless stated otherwise.
- The total number of marks for this paper is **60**.
- This document consists of **16** pages. Any blank pages are indicated.



Answer **all** questions.

1 Using examples, explain why the following can help to reduce or prevent sport injuries.

(a) Following the rules

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..... [2]

(b) Equipment checks

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..... [2]

2 Many sports use protective equipment to avoid injuries. Choose **three** activities and give a different example of protective equipment worn by the performer for each.

Sport

Protective Equipment

1:

2:

3:

[3]

3 (a) Identify **four** physical benefits of a warm up.

1

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2

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3

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4

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..... [4]

(b) Identify **three** psychological benefits of a warm up.

1

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2

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3

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..... [3]

5 Describe **four** aims of a cool down.

1

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2

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3

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4

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[4]

- 6 Which one of the following is an example of an over use injury? (circle your chosen option to indicate your answer)
- (a) Tendonitis
 - (b) Hamstring tear
 - (c) Bruising
 - (d) Strained ligaments

[1]

7 SALTAPS is used for on-field assessment of a sport injury.

(a) Fill in **each** of the missing words below to complete the acronym.

S	See
A	
L	Look
T	
A	Active
P	
S	Strength

[3]

(b) Give an example of how you would apply each of the following elements of SALTAPS:

Active

.....

Strength

..... [2]

9 Describe cramp and suggest **two** ways in which it can be treated.

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..... [3]

10 Explain the difference between an acute injury and a chronic injury.

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..... [2]

11 (a) Give **two** different circumstances where a performer may suffer from a soft tissue injury when participating in physical activity.

1

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2

..... [2]

(b) Describe how you would treat a soft tissue injury.

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..... [4]

12 Identify **three** symptoms of asthma.

1

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2

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3

..... [3]

13 You are running a coaching session and Katherine starts to have an asthma attack. Describe how you would respond to this.

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..... [2]

14 An emergency is any sudden life threatening injury or illness that requires immediate medical attention. Preparation is the key to responding to unexpected emergencies in sport. Describe the **three** main components of an emergency action plan.

1

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2

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3

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..... [3]

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SPECIMEN

Sample Assessment Material

LEVEL 1/2 CAMBRIDGE NATIONAL AWARD/CERTIFICATE/DIPLOMA IN ICT

R041: Reducing the risk of sports injuries

MARK SCHEME

Duration: 1 hour

MAXIMUM MARK XX

SPECIMEN

Question		Answer	Marks	Guidance
1	(a)	<p>One mark max for explanation: Following the rules: 1. Explanation: fair play/playing by the rules to stop/reduce injury; rules are there for a reason (to ensure safety of performer).</p> <p>One mark max for example: 2. Possible examples: high tackles in rugby (facial and neck injuries); two footed tackle in football (lower limb injuries); below the belt punch in boxing; un-sportsmanship behaviour in sport; stamping in rugby.</p>	2	<p><i>1 mark for explanation</i></p> <p><i>1 mark for relevant example (credit any reasonable example provided as long as specific to following rules in an activity or sport)</i></p>
	(b)	<p>One mark max for explanation: Equipment checks: 3. Explanation: making sure the equipment is safe so that equipment does not break and cause injury.</p> <p>One mark max for example: 4. Possible examples: goal posts (FA regulations) collapsing on players; basketball blackboards breaking; rugby posts without padding.</p>	2	<p><i>1 mark for explanation</i></p> <p><i>1 mark for relevant example (credit any reasonable example provided as long as specific to checking/using equipment in an activity or sport)</i></p>
2		<p>Three marks, one for each example of equipment given. Examples include: Football – shin pads; Rugby – scrum hats, gum shield; American football – helmets; Snowboarding – knee pads, helmet</p>	3	<p><i>Piece of equipment and the sport need to match up to gain the mark, i.e. if the piece of equipment is not relevant to the sport given, mark should not be awarded.</i></p> <p><i>Questions asks for different pieces of equipment; i.e. we would not accept 'helmet' for 3 different sports/activities</i></p>

Question		Answer	Marks	Guidance
3	(a)	Physical benefits: Four marks from: <ol style="list-style-type: none"> 1. Preparing the body for physical activity 2. Increase in flexibility of muscles 3. Increase in flexibility of joints 4. Increase in pliability of ligaments and tendons 5. Increase in heart rate 6. Increase in blood flow to muscles 7. Increase in oxygen to muscles 	4	<i>1 mark for each relevant point</i> 0 marks must be given where there is no response or no response worthy of credit
	(b)	Psychological benefits: Three marks from: <ol style="list-style-type: none"> 1. Increase arousal levels/'get in the zone' 2. Control arousal levels/settle nerves 3. Increase/improve concentration/focus 4. Motivation ready for activity/exercise 5. Mental rehearsal/think about what you are going to do in performance 	3	<i>1 mark for each relevant point</i> 0 marks must be given where there is no response or no response worthy of credit

Question	Answer	Marks	Guidance
4	<p>Five marks from:</p> <ol style="list-style-type: none"> 1. Pulse raising – correct exercises that slowly increases heart rate and body temperature 2. e.g. jogging, cycling, skipping 3. Mobility – exercises which takes the joints through their full range of ROM 4. e.g. links to tennis such as shoulder, hip and ankle movements 5. Dynamic movements/stretching – types of stretches that link to muscles groups used in tennis 6. e.g. dynamic and static stretches of the shoulder, lower limbs (hamstrings and quads); 7. e.g. dynamic stretches that mimic the movements of tennis – high steps, arm circles, quick racquet swings and lunges 8. Skill rehearsal phase – warm up specific muscles to be used in tennis 9. e.g. using a racquet and performing simple hitting techniques and movements such as serve and volley, forehand and backhand 	5	<p><i>5 marks from any 8 available</i></p> <p><i>Any valid, gradual pulse-raising exercise can be credited for point 2, does not need to be tennis-specific.</i></p> <p><i>Specific examples for tennis related to the main components achieve a separate mark for points 3, 5 and 7.</i></p> <p><i>Appropriate alternatives/equivalents to the e.g.'s given should be credited but must show some relevance to tennis.</i></p>
5	<p>Four marks from:</p> <ol style="list-style-type: none"> 1. Gradually lower heart rate 2. Circulate blood and oxygen 3. Reduce breathing rate 4. Remove waste products (e.g. lactic acid) 5. Reduce the risk of muscle soreness 	4	<p><i>1 mark for each relevant point</i></p>
6	<p>One correct answer only:</p> <p>(a) Tendonitis</p>	1	

Question		Answer	Marks	Guidance
7	(a)	<p>One mark for each correct answer:</p> <ol style="list-style-type: none"> 1. Ask 2. Touch 3. Passive 	3	<i>1 mark for each correct answer</i>
	(b)	<p>One mark for each correct answer:</p> <ol style="list-style-type: none"> 1. Active – seeing if the area can be moved (e.g. for a knee injury, can they flex the joint?) 2. Strength – is the area strong enough to be used (e.g. for an ankle injury, can they stand up and put weight on the joint?) 	2	<i>1 mark for each correct answer</i>
8		<p>One mark max for identifying each type:</p> <p>One mark for explanation:</p> <ol style="list-style-type: none"> 1. Sprains involve ligament damage. 2. Explanation – ligaments attach bones to bones and keep a joint together. Sprains can occur as a result of a violent twisting or side-ways movement to the joint 3. Strains involve muscle damage. 4. Explanation – also known as ‘pulled muscles’ and can vary in severity with some only causing minor damage and other tearing the whole muscle. These are usually caused by overstretching. 	4	<p><i>1 mark for stating sprains are ligament damage</i></p> <p><i>1 mark for stating strains are muscle damage</i></p> <p><i>1 mark for each explanation.</i></p>
9		<p>One mark max for description:</p> <ol style="list-style-type: none"> 1. a painful sensation caused by muscle contractions or over stretching. <p>Two marks max from:</p> <ol style="list-style-type: none"> 2. stretch the affected muscle with a mild, static stretch; 3. drink fluids (eg electrolyte imbalance can be a cause of cramp and rehydrating can alleviate this); 4. use ice to numb pain and allow muscle to relax; 5. apply compression to the muscle while it is in a relaxed position 	3	<p><i>1 mark only for description</i></p> <p><i>2 marks for treatment</i></p>

Question	Answer	Marks	Guidance
10	<p>One mark max for explaining acute injuries: Acute injuries:</p> <ol style="list-style-type: none"> 1. Happen as a result of a sudden trauma to the body (e.g. tackle, being hit by a ball). 2. Result in immediate pain, and usually swelling with a loss of function. <p>One mark max for explaining chronic injuries: Chronic injuries (also known as overuse injuries):</p> <ol style="list-style-type: none"> 3. Are a result of continuous stress on an area (e.g. Achilles tendonitis, shin splints or tennis elbow). 4. These injuries tend to come on gradually over a period of time. 	2	<p><i>1 mark from 2 for explaining acute injury</i></p> <p><i>1 mark from 2 for explaining chronic injury</i></p>
11 (a)	<p>Two marks from: Two different ways: (Direct trauma):</p> <ol style="list-style-type: none"> 1. physical contact with another performer or object 2. falling/slipping and hitting floor/object <p>(Indirect trauma):</p> <ol style="list-style-type: none"> 3. recurring injury; 4. repetitive stress injury; 5. sprain or strain (eg rolling over on ankle) 	2	<p><i>11 a) any two answers from the five listed can be awarded, candidates do not have to visit both direct and indirect trauma</i></p>
(b)	<p>Four marks from: How would you treat injury:</p> <ol style="list-style-type: none"> 1. R – rest the injury 2. I – ice the injury’s site 3. C – compress the injury’s site 4. E – elevate the injury’s site above the heart 5. You would use RICE. 	4	<p><i>11 b) must give the explanation of each part of RICE for a mark; 1 mark only for just stating RICE (point 5)</i></p>

Question		Answer	Marks	Guidance
12		<p>Three marks from:</p> <ol style="list-style-type: none"> 1. Coughing 2. Wheezing 3. Shortness of breath 4. Tightness in chest 	3	<i>1 mark for each symptom</i>
13		<p>Two marks from:</p> <ol style="list-style-type: none"> 1. Calm individual down 2. Get individual to take inhaler 3. Assess the situation and call an ambulance if needed 	2	<i>Any 2 of answers listed acceptable for 2 marks max</i>
14		<p>Three marks from:</p> <ol style="list-style-type: none"> 1. Emergency personnel – details are provided as to who the key personnel on-site are (first responder, first aider, coach) to contact in an emergency (if they are not present) and where/how to contact them. 2. Emergency communication – details are provided with relevant contact numbers for the emergency services and any on-site/specialist provision. 3. Emergency equipment – details of where first aid kits and other relevant materials may be for use in an emergency. 4. Emergency personnel; Emergency communication; Emergency equipment 	3	<p><i>1 mark for each correct description</i></p> <p><i>If candidates accurately identify the 3 components but provide no description, award 1 mark total for the identification only (point 4).</i></p>

Question	Answer	Marks	Guidance
15	<p>Levels of response: 0 = nil response or response not worthy of credit</p> <p>MB1 (1–3 marks) The response shows a limited understanding of the influence which physical preparation can have on injury. Candidates provide simple descriptions of a few points from the indicative content. No attempt is made at explanation and there may be some irrelevant material in the answer. There is little or no use of technical vocabulary and sentences have limited coherence and structure. Errors in grammar, punctuation and spelling may be noticeable and intrusive.</p> <p>MB2 (4–6 marks) The response shows an understanding of the influence which physical preparation can have on injury. Candidates make some valid points from the indicative content with good knowledge and understanding. Some attempt at explanation is made. At this level candidates may address both positive and negative sides relating to the same aspect of physical preparation, and at the top of the level one or more of the developed points may be seen. There is some use of technical vocabulary and sentences for the most part are relevant and are coherent. There are occasional errors in grammar, punctuation and spelling.</p> <p>MB3 (7–8 marks) The response shows a detailed understanding of the influence which physical preparation can have on injury. Candidates make many points from the indicative content, several of which may be developed. Explanation is clearly given. The answer is well structured and uses appropriate terminology and technical vocabulary. There are few if any errors in grammar, punctuation and spelling.</p>	8	<p><i>Differentiating between levels look for:</i></p> <p><i>MB1:</i></p> <ul style="list-style-type: none"> - <i>Where valid indicative points are made they may mainly relate to fitness levels, training and warm up</i> - <i>Simple description rather than explanation</i> <p><i>MB2:</i></p> <ul style="list-style-type: none"> - <i>May be one or more developed points</i> - <i>Some explanation</i> <p><i>MB3:</i></p> <ul style="list-style-type: none"> - <i>Points are developed / expanded</i> - <i>Clear explanations</i> - <i>Very few QWC errors</i> <p><i>Always indicate the level at the end of the response</i></p>

Question	Answer	Marks	Guidance
	<p>Indicative content:</p> <ol style="list-style-type: none"> 1. (Training +) Progressive training can allow you to build up towards being ready for performance. 2. (Training -) If you are not regularly training in preparation for the activity then you can put strain on your body that it is not able to cope with, causing injury. 3. (Warm up +) A suitable warm up targets relevant parts of the body and gradually prepares them for the activity ahead. 4. (Warm up -) Not warming up (either at all or appropriately) means that parts of the body can be un-prepared for sudden use when you start the activity and this can cause injury to occur. 5. (cool down +) Effective cool down can help the body recover gradually from exercise (and reduce post exercise muscle soreness) 6. (cool down -) Not cooling down properly can mean that circulation drops suddenly 7. (cool down -) ...which can lead to blood pooling and result in swelling and pain in the muscles 8. (fitness levels +) Having good core fitness makes the body better able to cope with physical activity 9. (fitness levels -) Having poor/insufficient core fitness means that the body is physically less able to cope with activity. 10. (fitness levels -) Fatigue/tiredness can also have a detrimental effect on technique which in turn can cause injury. 11. (overuse -) Injury can be caused by repetitive actions in some activities 12. (overuse -) ...so playing too often increases the risk of these injuries by regularly placing stress on the same parts of the body 13. (muscle imbalances -) Can mean that some muscles have to take too much strain during exercise while other associated muscles do not do enough work. 14. (muscle imbalances -) ...this can lead to injury in the muscle doing most of the work, or to the joints or parts of the skeleton being supported by the muscle group. 		<p><i>Emboldened points 7, 10, 12 and 14 are developed points which show further understanding. It would be expected that where these are used in the response, it would be a MB2 or MB3 response in most cases.</i></p> <p><i>Not using the developed points must not prohibit candidates from achieving the top band or full marks, but is a potential indicator of the level at which they are responding.</i></p>

Learning Outcomes (LO) Grid

Question	LO1	LO2	LO3	LO4	Total
1a	2				
1b	2				
2	3				
3a		4			
3b		3			
4		5			
5		4			
6			1		
7a			3		
7b			2		
8			4		
9			3		
10			2		
11a			2		
11b			4		
12				3	
13				2	
14			3		
15	8				
Total	15	16	24	5	60